

# Overweight patients should slim down before procedure to treat abnormal heart rhythm

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Overweight patients with atrial fibrillation are more likely to experience a return of the heart rhythm disorder after a corrective procedure than those of normal weight, according to research presented at EHRA 2022,

a scientific congress of the European Society of Cardiology (ESC).

"The risk of recurrent [atrial fibrillation](#) after [ablation](#) rose incrementally as [body mass index](#) (BMI) increased," said lead author Dr. Jacob Toennesen of Gentofte University Hospital, Denmark. "Our study suggests that [overweight patients](#) should be advised to lose weight before the intervention to improve the likelihood of being free of the arrhythmia afterwards."

Atrial fibrillation is the most common heart rhythm disorder worldwide. It is estimated that one in three Europeans will develop the condition. Atrial fibrillation is associated with elevated risks of stroke, heart failure and [premature death](#), while more than 60% of patients have impaired quality of life. Dr. Toennesen said: "The potential for deleterious outcomes means that obtaining a normal heart rhythm is a crucial goal of treatment."

Treatment options include drugs and ablation, which involves burning or freezing a small portion of the heart to create a scar and prevent the spread of abnormal electrical impulses. While previous research has shown that obesity is associated with the development of atrial fibrillation, this study examined the link between BMI and a return of the heart rhythm disorder after ablation.

The study was conducted using Danish nationwide registries. It included a total of 9,229 adults who underwent a first-time atrial fibrillation from 2010 through 2018. Patients were divided into five groups according to BMI in kg/m: underweight (below 18.5), [normal weight](#) (18.5 to 24), overweight (25 to 29), obese (30 to 34) and morbidly obese (over 34). The median age decreased from 64 years in the normal weight group to 60 years in the morbidly obese group.

Patients were deemed to have experienced atrial fibrillation during

follow-up if they claimed prescriptions of anti-arrhythmic drugs, were hospitalised due to atrial fibrillation, underwent re-ablation, or had an electrical cardioversion which transmits [electric shocks](#) to the heart through electrodes on the chest to restore normal heart rhythm.

The authors analysed the relative risk of recurrent atrial fibrillation according to BMI after adjusting for sex, age, procedure year, heart failure, [ischaemic heart disease](#), [chronic obstructive pulmonary disease](#) (COPD), chronic kidney disease, hypertension and diabetes. At one year, compared to the normal weight group, the overweight, obese and morbidly obese groups had a 19%, 22% and 32% higher likelihood of atrial fibrillation, respectively. The same pattern was observed after five years, with 15%, 18% and 26% higher risks of the abnormal heart rhythm in the overweight, obese and morbidly obese groups, respectively, compared with the normal weight group. The relative risk in underweight patients did not significantly differ from those with normal weight at either time point.

Dr. Toennesen said: "The study shows that recurrence rates of atrial fibrillation increased incrementally with rising BMI at short- and long-term follow-up. For instance, after one year 61% of normal weight patients were still free of the heart rhythm disorder compared to just 52% of morbidly obese patients. We also observed that both procedure duration and X-ray dose increased with rising BMI."

He concluded: "The strength of association between high BMI and repeat atrial fibrillation after ablation was comparable to the influence of well-known factors like [heart failure](#), COPD and hypertension which are typically treated in these patients. The findings indicate that aggressive weight management prior to ablation could potentially lead to better outcomes."

**More information:** The abstract "Recurrence rates of atrial fibrillation

ablation according to body mass Index, a nationwide, registry-based Danish study" will be presented during the session "Atrial fibrillation: new insights" which takes place on 4 April.

Provided by European Society of Cardiology

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